

# ISOtech



**For use with freon gas in split systems and heating pumps.**

Suitable for gas R407 / R410 / R32. Inches sizes. No condensation.

EN 12735  
ASTM B280

EUROCLASS  
EN 13501

*We've got you  
**proTECH**ted!*



ISOCLIMA

## **WHY**

The issue of environmental sustainability is increasingly felt and discussed. Not a day goes by without mass media coverage of environment-related issues, on how the environment conditions are changing largely due to the actions of man, and on the consequent, uncontrolled increase in pollution that makes the environment in which we live more and more harmful to our health as well as to products that we use every day.

It should, however, be pointed out that some geographical areas are less polluted than others, due to a number of factors (domestic laws for the protection of the environment, cultural habits, level of industrialisation, emissions into the atmosphere...).

## **WHERE**

This being said, an increase of cases of "formicary corrosion", also known as "ant's nest corrosion", has been noted in recent years in some specific areas of the globe. The cause can sometimes be traced back to easily identifiable elements; in most cases, however, there are no detectable causes in the vicinity of the affected systems.

## **WHO**

Although we are talking about very few cases compared to the widespread and historic use of a product that has always provided broad guarantees of reliability and durability in air conditioning systems, Isoclima has dedicated resources to the in-depth study of this phenomenon to find a winning solution to offer its customers. This research effort comes natural to a company like Isoclima, leader in the field of insulated copper pipes for air conditioning, refrigeration, plumbing and gas systems, always at the forefront and attentive to the development and needs of the various markets in which it has been operating for over 20 years (55 countries on 4 continents).

## **HOW**

After analysing the causes of the phenomenon in its laboratories and thanks to the latest generation technologies, Isoclima has studied and developed various technical solutions aimed at eliminating the onset of corrosion.

## **WHAT**

Finally, through the careful assessment of the extensive laboratory tests performed in Italy and in the United States, Isoclima has identified the technical solution that offers the greatest reliability and guarantee over time.

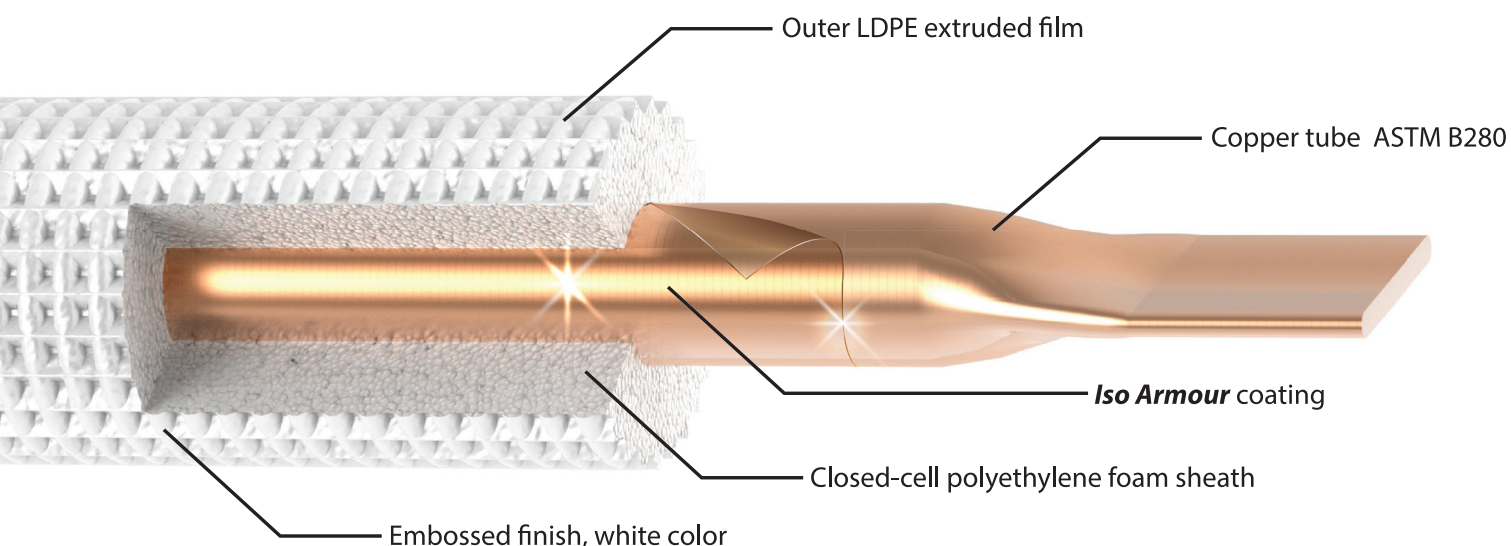
## **WHEN**

The result of all this work / research is ISOTECH, a patent pending product that will be available for order from December 2019. The official world premiere will take place in February 2020 on the occasion of Isoclima's participation in AHR Expo in Orlando (USA), the world's largest HVACR marketplace.

## COPPER PIPE

Made in accordance with the applicable rules and law no. 46 of 5th March 1990 and Presidential Decree no. 1095 dated 3rd August 1968, it is an LWC CU DHP copper alloy pipe complying with European Standard EN 12735-1, with inside surfaces, cleaned annealed in coils and phosphorous deoxidized, with minimum 99.9% copper content and 0.015-0.040% phosphorous, in compliance with UNI 56491n series B, heavy, bearing the marking "Manufacturer D x thickness OD x thickness I 00" or "Manufacturer ACR".

After inside surfaces are thoroughly cleaned and tubes are closed at the ends to keep the pipe clean until it has been installed, the copper pipe is subjected to a process that produces around it a layer of a special product (the connection of the two products is patented) specifically studied and manufactured to isolate tight and homogeneously the tube from any contacts with the environment, avoiding any substance to come in a direct contact and hence taking away any possibility for corrosion coming from outside (for instance "formicary corrosion").



## THE SHEATH

Covered with a low-density closed-cell polyethylene foam sheath that is finished with an outer clear grey LDPE extruded film and embossed to ensure improved mechanical protection and appearance. It is non-toxic, odourless and free from chlorofluorocarbons (CFC), anticondensate.

This ISOCLIMA insulating sheath, which adheres to a non-flammable base, melts flamelessly and thus belongs to self-extinguishing BL S2 D0 (EN 13501) and bears the progressive marking "00 ISOTECH OD x thickness BL S2 D0 suitable for R407/R410/R32" as well as an indication of the date, time and production line for quality control purposes. The main features of the ISOTECH sheath are excellent to water vapour, significant reduction in moisture on the outer surface of the pipe when supplying water at dew point temperature in air at ambient temperature.

"ISOTECH" by ISOCLIMA is mainly used for conveying refrigerant gases in split systems.



ANTI CONDENSING



TIGHTNESS TESTED



SHINY AND  
BRILLIANT



DURABLE



FIRE RESISTANT  
euroclass



WATER RESISTANT



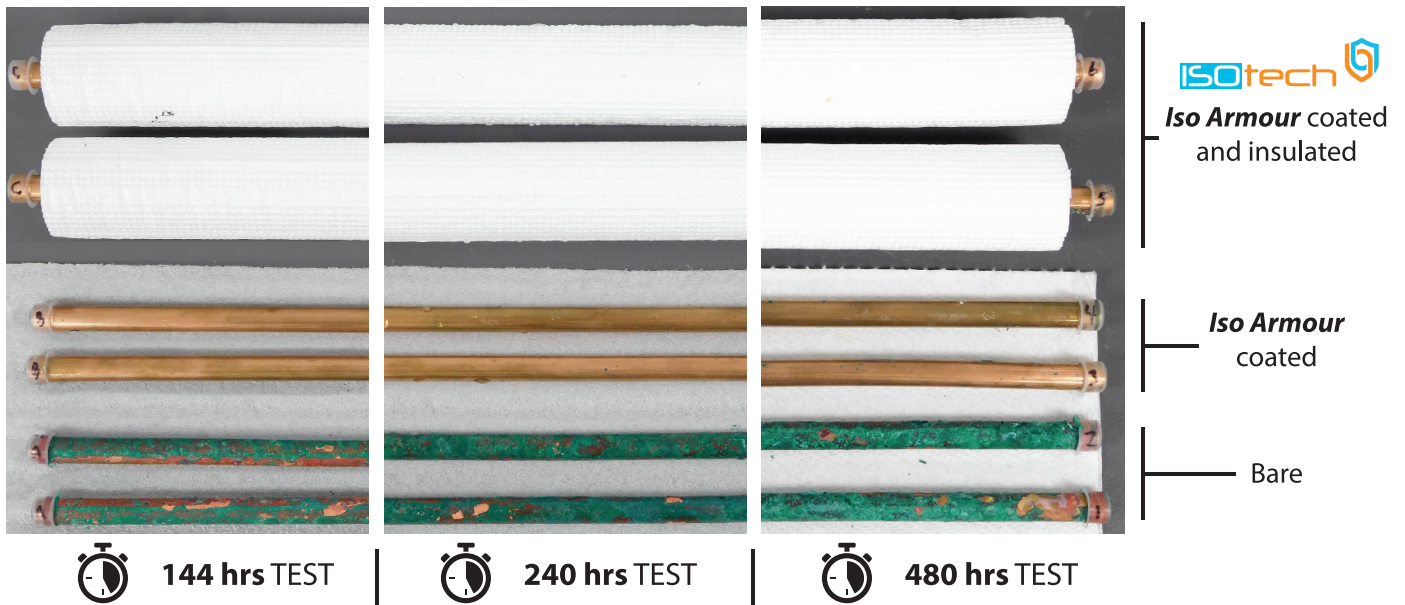
SCRATCH RESISTANT



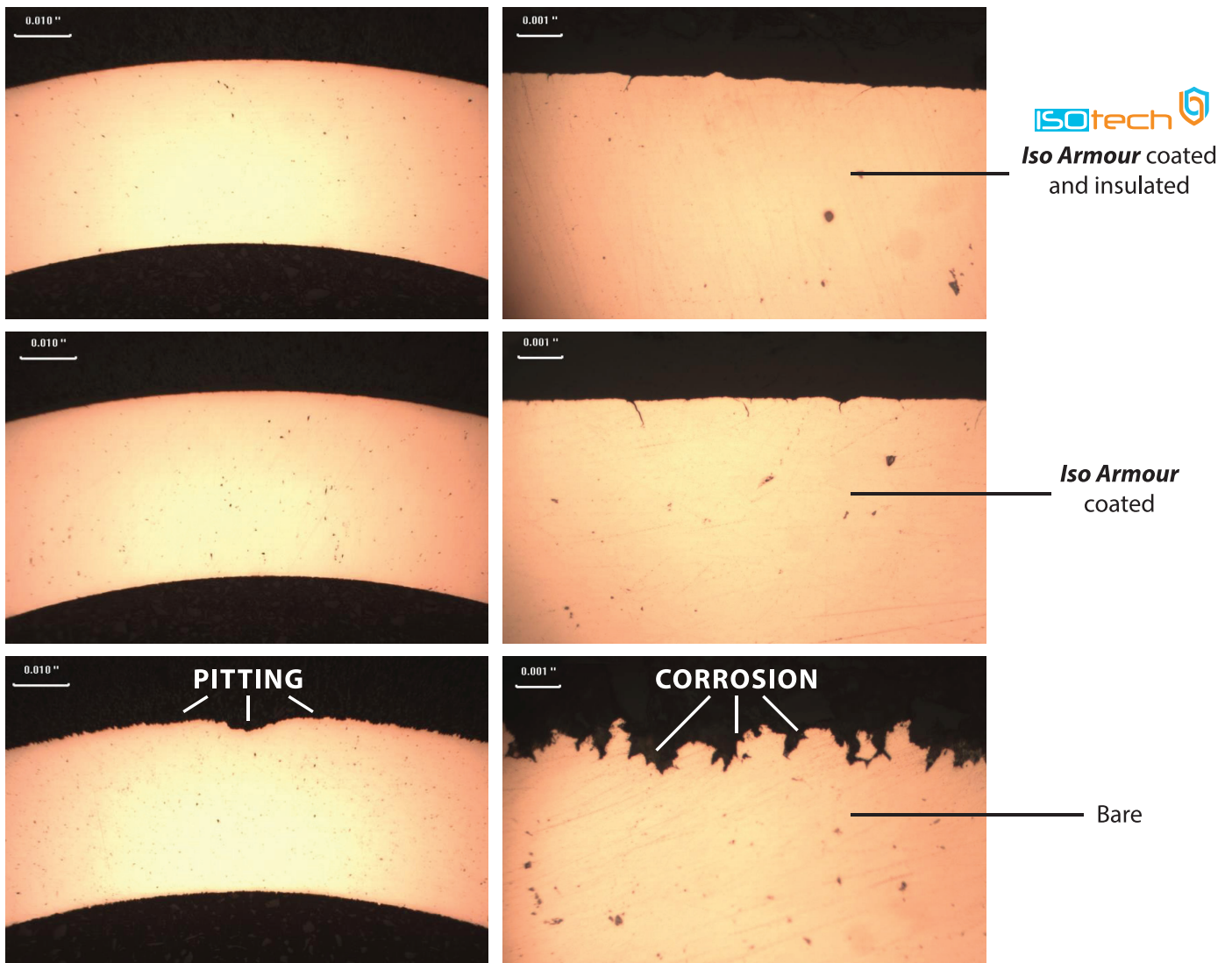
MADE IN ITALY  
STOCKED IN US

# TESTING IN AGGRESSIVE ENVIRONMENT PERFORMED IN US

## DIGITAL VIEWS

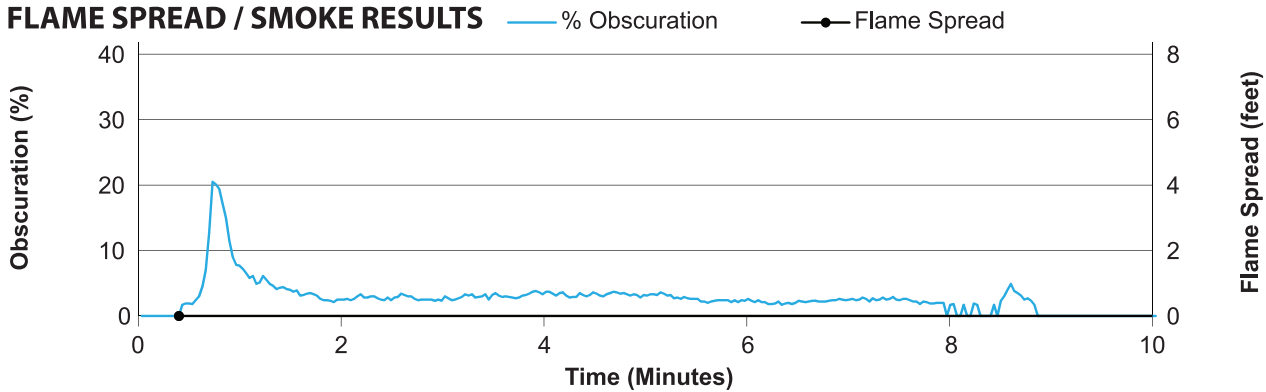


## METALLOGRAPHIC VIEWS



## TECHNICAL SPECIFICATION

### FLAME SPREAD / SMOKE RESULTS



DESCRIPTION	SPECIFICATIONS	NOTES	"R" Value: 1/2" Wall = R4 3/4" Wall = R7
Copper tubing	ASTM B 280	CU DHP 99,9%	
Working temperature	ASTM C 1427-07	-80° / +95° C	
Thermal conductivity	UNI ISO EN 8497	40° C	
Water vapor permeability	UNI EN 1931:2002		
Insulation dimension and tolerances	EN 14313:2015		

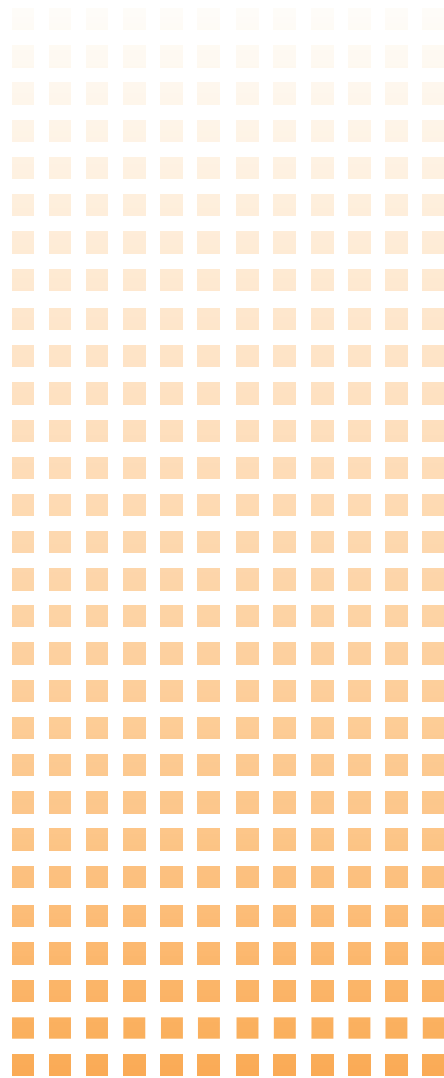
COPPER PIPE WALL THICKNESS	EN 12735-1 / ASTM B280
INSULATION THICKNESS	6,5 mm - 10 mm / 1/2" / 3/4"
OPERATING TEMPERATURE RANGE	- 80°C + 98°C
COEFF. OF WATER VAPOUR DISPERSION	6500 μ
THERMAL CONDUCTIVITY	0,0397 W. m-1 . K-1
INSULATION DENSITY	45 KG/m3
FIRE RESISTANCE	BL S2 D0 - (self-extinguishing) ASTM E84
PACKAGING	Comes in single coils wrapped in clear film for added protection
PALLET DIMENSIONS	80 x 80 x 230 ; 3,15" x 3,15" x 7,5"
COILS LENGHT	25, 50 meters; 50", 82", 164"

BARE COPPER PIPE DIMENSIONS	THICKNESS OF INSULATING SHEATH
6.35 mm - 1/4"	6.5 mm - 1/2" - 3/4"
9.52 mm - 3/8"	7 mm - 1/2" - 3/4"
12.70 mm - 1/2"	10 mm - 1/2" - 3/4"
15.88 mm - 5/8"	10 mm - 1/2" - 3/4"
19.05 mm - 3/4"	10 mm - 1/2" - 3/4"
22.22 mm - 7/8"	10 mm - 1/2" - 3/4"





ISOCLIMA



[www.isoclima.com](http://www.isoclima.com)